

Appl. No. 10/743,861  
Reply dated May 5, 2006  
Reply to Office Action of December 5, 2005

### **REMARKS/ARGUMENTS**

Claims 1, 3-13 and 15-20 are presented for Examiner Rao's consideration. Claim 1 is currently amended and the additional subject matter in claim 1 may be found, for example, in claim 2 as originally filed. Please cancel claim 2. Claim 13 is also currently amended and the additional subject matter in claim 13 may be found, for example, in claim 14 as originally filed. Please cancel claim 14. In addition, claims 1 and 13 are amended for purposes of clarity as described herein below.

Pursuant to 37 C.F.R. § 1.111, reconsideration of the present application in view of the foregoing amendments and following remarks is respectfully requested.

Applicants thank Examiner Rao for including in the Office Action mailed December 5, 2005 signed copies of the initialed Forms PTO-1449 sent with Applicants' supplemental Information Disclosure Statements (IDS) received by the Office on May 27, 2005.

The invention provides a die for producing meltblown multicomponent filaments. As currently claimed in independent claim 1, the die includes a first surface having a first plurality of orifices of a first diameter, each first orifice extending from the first surface to a first conduit that extends in the interior of the die to a capillary having a diameter smaller than the first diameter, and then to a die opening. The first plurality of conduits defines a first plane. The first surface also includes a second plurality of orifices of the first diameter, each second orifice extending from the first surface to a second conduit that extends in the interior of the die to a capillary having a diameter smaller than the first diameter, and then to a die opening. The second plurality of conduits defines a second plane. The first plane and the second plane are not coplanar and intersect at an angle  $\alpha$ . Furthermore, as currently amended, the first plurality of orifices and first conduits alternate with the second plurality of orifices and second conduits.

As currently claimed in independent claim 13, the die includes a first series of conduits of a first diameter extending in the interior of the die, and a second series of

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conduits also of the first diameter extending in the interior of the die. The first and second series of conduits converge toward and connect to a series of capillaries, each capillary having a diameter smaller than the first diameter. Each conduit connects to a capillary. Each capillary connects to a die opening. Notably, a capillary connected to a first conduit is not adjacent to another capillary connected to a first conduit, but rather, a capillary that connects to a first conduit is adjacent to a capillary that connects to a second conduit.

Prior to the instant amendment, the independent claims had additionally including language to the effect that the structure recited therein was for “receiving a multicomponent structure”, “to convey the multicomponent thermoplastic”, and “adapted to extrude”. The Examiner did not object to this language, but did remark that these are recitations of intended use or method limitations and not recitation of structure. Therefore, the main body portions of the independent claims have been amended by deleting such language in order to provide more clarity as to what is claimed by the Applicants.

#### **Rejection under 35 U.S.C. §102(b) over U.S. Pat. No. 6,565,344 to Bentley**

By way of section 1 the Office Action mailed December 5, 2005 the Examiner rejected claims 1, 2, 5-11, and 13-16 under 35 U.S.C. §102(b) as allegedly being anticipated by and thus unpatentable over U.S. Patent Number 6,565,344 to Bentley (hereinafter “Bentley”). This rejection is hereby **traversed** to the extent it may apply to the currently presented claims.

Turning now to the cited Bentley reference, as the Examiner has noted, Bentley discloses a die for multicomponent liquids and has outlets that intersect in an angle. However, Applicants assert that Bentley fails to anticipate their invention as currently claimed in the independent claims. The Examiner noted that Bentley teaches two conduits 52 and 54 which flow into the die tip, eventually becoming a

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first and second plurality of orifices 26a and 26b that converge at an intersecting angle. However, it is important to note that according to Bentley the conduits do in fact eventually converge together from their respective sides of that die and meet together, intersecting one another at the first and second outlets 26a and 26b.

Please see Bentley at col. 5 lines 22-26 where it states that the:

two types of liquid material are brought together at each multi-component filament outlet 26a, 26b. The two types of liquid material (polymers A and B) are kept separate from one another until being brought into contact immediately after extrusion.

Therefore, as stated in Bentley, the angled outlets in Bentley are specifically for keeping the two components separate until such time as they are brought into contact with each other. It is important to note, however, that in Bentley the angled conduits do physically converge and intersect with one another. In clear contrast, the Applicants' claim 1 requires, not that they converge and intersect together, but rather that the first plurality of orifices and first conduits alternate with the second plurality of orifices and second conduits, and Applicants' claim 13 requires instead that a capillary that connects to a first conduit is adjacent to a capillary that connects to a second conduit. Instead of alternating conduits (claim 1) or having capillaries connected to first conduits adjacent to capillaries connected to second conduits (claim 13), Bentley teaches only bringing the first and second conduits to a single common point.

Therefore, because the Bentley disclosure does not teach all of the parameters or elements of Applicants' claims as currently presented, Applicants respectfully submit that the rejection of claims 1, 2, 5-11, and 13-16 under 35 U.S.C. §102(b) should be withdrawn.

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**Rejection under 35 U.S.C. §103; Bentley in view of U.S. 3,825,380 to Harding**

By way of section 2 of the Office Action mailed December 5, 2005, the Examiner rejected the dependent claims 3, 4 and 17-20 under 35 U.S.C. § 103(a) as allegedly being obvious to one of ordinary skill in the art at the time the invention was made and thus unpatentable over the afore-mentioned Bentley reference in view of U.S. Patent Number 3,825,380 to Harding (hereinafter “Harding”). This rejection is respectfully **traversed** to the extent that it may apply to the currently presented claims.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP §2143. Applicants submit that a *prima facie* case of obviousness has not been established because the cited references, even if combined, still fail to teach or suggest all of the claims limitations.

The Examiner stated that Bentley failed to show specific size ranges for the die openings and stated it would be obvious to modify Bentley with the teachings of Harding. Applicants do not dispute that the Harding reference states die opening size ranges that at least in part overlap those claimed in the claims involved in this rejection (dependent claims 3, 4 and 17, 18).

However, even if Bentley and Harding are combined, the combination still fails to disclose all of the parameters required by Applicants' independent claims, upon which the claims involved in this rejection depend. As noted above with respect to the anticipation rejection over Bentley, the two conduits 52 and 54 taught in Bentley eventually converge together from their respective sides of that die and meet together, intersecting one another at outlets 26a and 26b. Applicants' invention, on

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the other hand, require alternating first and second conduits and orifices (claim 1) or require that a capillary connecting to a first conduit be adjacent a capillary connecting to a second conduit (claim 13). The addition of Harding, which is not a multicomponent fiber die, does not in any way remedy this deficiency in the disclosure of Bentley (please note the Examiner did not assert that Harding did so).

Applicants also respectfully submit that for at least the reasons indicated above relating to corresponding independent claims, the pending dependent claims patentably define over the references cited. However, Applicants also note that the patentability of the dependent claims does not hinge on the patentability of independent claims. In particular, it is believed that some or all of these claims may possess features that are independently patentable. As particular examples, claims 19 and 20 were included in the obviousness rejection but were not specifically mentioned by the Examiner. Applicants point out that neither Bentley nor Harding appear to disclose a die having at least 20 die openings per inch, nor at least 30 die openings per inch, as recited respectively in Applicants' claims 19 and 20. Applicants point out in this regard that Harding does mention a die having 9 holes per inch at column 2 lines 41-42.

In addition, Applicants point out that although all of claims 1-20 were listed as rejected in box 6 of the Office Action Summary, claim 12 was neither listed nor mentioned in either of the anticipation rejection or in the obviousness rejection. Applicants presume the Examiner intended to include claim 12 in at least one of these rejections. However, claim 12 depends from claim 1 and includes the die having at least 20 die openings per inch, which as Applicants describe above does not appear to be taught in either cited reference.

For these reasons, Applicants respectfully submit that the rejection claims 3, 4 and 17-20 under 35 U.S.C. §103(a) over Bentley in view of Harding should be withdrawn.

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For the reasons stated above, it is respectfully submitted that all of the claims are in form for allowance.

Please charge any prosecutorial fees which are due to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875.

The undersigned may be reached at: 770-587-8908.

Respectfully submitted,

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#### CERTIFICATE OF TRANSMISSION

I, Robert A. Ambrose, hereby certify that on May 5, 2006, this document is being transmitted to the United States Patent and Trademark Office, EFS-Web system.

By: /Robert A. Ambrose/  
Robert A. Ambrose